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Claims:

1. A method of charging fine-grained metal, metal compounds or a mixture of two or more metals or metal compounds, in particular fine-grained directly reduced iron, into an electric-arc furnace (1), in which the metal, the metal compound or the mixture is supplied essentially continuously via at least one downpipe (12) to one or more openings (10) provided in the furnace roof (4), is introduced into the furnace (1) through said at least one opening (10) as a bulk material stream (11), and falls onto the melt (13) merely by gravity, **characterized in that** before entering the furnace (1) after the downpipe (12) the bulk material stream (11) is passed through a dosing orifice (8) and enters the furnace (1) essentially undisturbed.
2. The method as claimed in claim 1, **characterized in that** after the downpipe (12) the bulk material stream (11) is passed through a round or oval dosing orifice (8).
3. The method as claimed in claim 1, **characterized in that** after the downpipe (12) the bulk material stream (11) is passed through an iris.
4. The method as claimed in any of the preceding claims, **characterized in that** the dosing orifice (8) is inclined by not more than 25° with respect to the horizontal.
5. The method as claimed in any of claims 1 to 3, **characterized in that** the dosing orifice (8) is arranged horizontally.
6. The method as claimed in any of the preceding claims, **characterized in that** the mass flow of the bulk material stream (11) in the downpipe (12) is kept larger than the throughput through the dosing orifice (8).
7. The method as claimed in any of the preceding claims, **characterized in that** after the dosing orifice (8) the bulk material stream (11) is passed through a protective tube (7).

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8. The method as claimed in claim 7, characterized in that the protective tube (7) is cooled.

5 9. The method as claimed in any of the preceding claims, characterized in that the metal, metal compound or mixture of two or more metals or metal compounds introduced into the furnace (1) has a mean grain size of less than 1 mm, preferably less than 0.5 mm, particularly preferably less than 0.4 mm, and quite particularly preferably less than 0.3 mm.

10 10. An electric-arc furnace (1), in particular for charging with fine-grained directly reduced iron or ores by a method as claimed in any of claims 1 to 9, with a furnace roof (4) having at least one opening (10), the at least one opening (10) of the furnace roof (4) being connected with a downpipe (12) leading to the furnace lid (4) from outside for supplying the material to be charged, characterized in that at the opening of the 15 downpipe (12) into the furnace (1) a preferably round or oval dosing orifice (8) is provided.

11. The electric-arc furnace (1) as claimed in claim 10, characterized in that the dosing orifice (8) is an iris.

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12. The electric-arc furnace (1) as claimed in claim 10, characterized in that the dosing orifice (8) has at least two slides (9) movable with respect to each other.

25 13. The electric-arc furnace (1) as claimed in any of claims 10 to 12, characterized in that the dosing orifice (8) is inclined with respect to the horizontal by not more than 25°.

14. The electric-arc furnace (1) as claimed in any of claims 10 to 12, characterized in that the dosing orifice (8) is arranged horizontally.

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15. The electric-arc furnace (1) as claimed in any of claims 10 to 14, characterized in that the bulk recipient vessel constitutes a mass flow silo.

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16. The electric-arc furnace (1) as claimed in any of claims 10 to 15, **characterized in that the downpipe (12) is arranged vertically.**

17. The electric-arc furnace (1) as claimed in any of claims 10 to 16, **characterized in that below the dosing orifice (8) a preferably vertical protective tube (7) is provided.**

18. The electric-arc furnace (1) as claimed in claim 17, **characterized in that the length of the protective tube (7) is about 1 to 3 times the maximum diameter of the stream of bulk material.**

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19. The electric-arc furnace (1) as claimed in claim 17 or 18, **characterized in that the protective tube (7) is cooled.**

15 20. The electric-arc furnace (1) as claimed in any of claims 17 to 19, **characterized in that the diameter of the protective tube (7) is at least twice as large as the opening diameter of the dosing orifice (8).**

20 21. The electric-arc furnace (1) as claimed in any of claims 10 to 20, **characterized in that the maximum opening diameter of the dosing orifice (8) is smaller than or equal to the diameter of the downpipe (12).**